

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Previously Presented) Method to create a topology map indicating the quality of connectivity of each network device of a wireless network with all other network devices in said wireless network, characterized by the following steps:

- performing a measurement phase in which a calibration signal is successively broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

- performing a reporting phase in which the measurement results are wirelessly transmitted from each network device to the network device creating said topology map; and

- performing a creating phase in which said topology map of the network is created within the network device creating said topology map on basis of all received measurement results.

2. (Original) Method according to claim 1, characterized in that said calibration signal is transmitted in a dedicated control channel.

3. (Previously Presented) Method according to claim 1, characterized in that said measurement results are reported in a respective dedicated control channel.

4. (Previously Presented) Method according to claim 1, characterized in that said calibration signal is transmitted with the maximum allowed transmit power level.
5. (Previously Presented) Method according to claim 1, characterized in that said topology map is updated when a new network device joins the network.
6. (Previously Presented) Method according to claim 1, characterized in that said topology map is updated after a predetermined amount of time.
7. (Previously Presented) Method according to claim 1, characterized in that said topology map is stored in a central controller of said wireless network.
8. (Previously Presented) Method according to claim 1, characterized in that said topology map is broadcasted in the whole network.
9. (Previously Presented) Method according to claim 1, characterized in that only the parts of the topology map related to a specific network device are transmitted to said specific network device.
10. (Previously Presented) Method according to claim 1, characterized in that said calibration signal is transmitted using an omni-directional antenna.

11. (Previously Presented) Method according to claim 1, characterized in that the contents of the topology map are codes that are mapped to receive power values.
12. (Previously Presented) Method according to claim 1, characterized in that said measurement phase and/or reporting phase is initiated by the network device creating said topology map.
13. (Previously Presented) Network device for a wireless network, characterized by means to broadcast a calibration signal, to measure a power level of a received calibration signal, to internally store results of said measurement and to wirelessly transmit said measurement results to another network device.
14. (Original) Network device according to claim 13, characterized in that said functions are performed on demand of another network device or on an internal demand.
15. (Previously Presented) Network device according to claim 13, characterized by a calibration decoder that initiates the broadcast of a calibration signal and the measurement of the reception quality of one or more incoming calibration signals upon reception of a measurement control signal.
16. (Previously Presented) Network device according to claim 15, characterized in that said calibration decoder initiates the transmission of one or more measurement results upon reception of a reporting control signal.

17. (Previously Presented) Network device according to claim 13, characterized by a report encoder that receives one or more signal quality indication signals and encodes therefrom a signal quality control signal to be transmitted to said other network device.

18. (Previously Presented) Network device configured and adapted for wireless communication in a wireless network, characterized by

means configured and adapted for generating and wirelessly communicating respective control signals for initiating a measurement phase and initiating a reporting phase; and

means configured and adapted for performing a creation of a topology map indicative of the quality of wireless connectivity of each network device of said wireless network with all other network devices in said wireless network on the basis of measurement results received during the reporting phase.

19. (Canceled)

20. (Previously Presented) Method to create a topology map of a wireless network comprising a plurality of network devices, wherein at least one of said network devices lacks a wired network connection to any other of said network devices, said topology map indicating the quality of connectivity of each of said plurality of network devices with all other network devices of said plurality of network devices, characterized by the following steps:

performing a measurement phase in which a calibration signal is successively broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

performing a reporting phase in which the measurement results are transmitted from each network device to the network device creating said topology map; and

performing a creating phase in which said topology map of the network is created within the network device creating said topology map on the basis of all received measurement results.

21. (Previously Presented) Method according to claim 20, characterized in that said calibration signal is transmitted in a dedicated control channel.

22. (Previously Presented) Method according to claim 20, characterized in that said measurement results are reported in a respective dedicated control channel.

23. (Previously Presented) Method according to claim 20, characterized in that said calibration signal is transmitted with the maximum allowed transmit power level.

24. (Previously Presented) Method according to claim 20, characterized in that said topology map is updated when a new network device joins the network.

25. (Previously Presented) Method according to claim 20, characterized in that said topology map is updated after a predetermined amount of time.

26. (Previously Presented) Method according to claim 20, characterized in that said topology map is stored in a central controller of said wireless network.

27. (Previously Presented) Method according to claim 20, characterized in that said topology map is broadcasted in the whole network.

28. (Previously Presented) Method according to claim 20, characterized in that only the parts of the topology map related to a specific network device are transmitted to said specific network device.

29. (Previously Presented) Method according to claim 20, characterized in that said calibration signal is transmitted using an omni-directional antenna.

30. (Previously Presented) Method according to claim 20, characterized in that said measurement phase and/or reporting phase is initiated by the network device creating said topology map.

31. (Previously Presented) Method to create a topology map of a wireless network comprising a plurality of network devices, wherein network communication between said plurality of network devices is effected solely as wireless communication, said topology map indicating the quality of connectivity of each of said plurality of network devices with all other network devices of said plurality of network devices, characterized by the following steps:

performing a measurement phase in which a calibration signal is successively broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

performing a reporting phase in which the measurement results are transmitted from each network device to the network device creating said topology map; and

performing a creating phase in which said topology map of the network is created within the network device creating said topology map on the basis of all received measurement results.

32. (New) A method for performing transmission power control for wireless communications established by wireless devices in a wireless communication network, wherein one of said wireless devices is established as a central device to control a direct communication between the wireless devices; the method comprising:

sending a request message from said central wireless device to a first wireless device that is communicating with a second wireless device as said direct communication;

engaging said first wireless device to create quality measurement information concerning a quality of said direct communication and to report said quality measurement information to said central wireless device in response to said request message; and

sending control data to said first wireless device for controlling a transmit power of said direct wireless communication in accordance with said quality measurement information supplied from said wireless devices.

33. (New) A method for controlling transmission power of a direct communication which is established between two or more wireless devices in a wireless networks where there is at least one central device for facilitating said direct communication, the method comprising:

receiving a request message from said central wireless device;

measuring a transmission quality of said direct wireless communication that is established between said two or more wireless devices in response to said request message;

reporting said transmission quality as quality measurement information to said central device; and

controlling said transmission power of said direct wireless communication based on control data which is created by said central device according to said quality measurement information.

34. (New) A method for controlling wireless devices in a direct communication in a wireless communication network, wherein one of said wireless devices is established as a central device to control a direct communication being established between wireless devices, the method comprising:

sending a request message from said central wireless device to a first wireless device that is communicating with a second wireless device in said direct communication;

engaging said first wireless device to create quality measurement information concerning quality of said direct communication and to report said quality measurement information to said central wireless device in response to said request message; and

sending control data to said first wireless device for controlling said first wireless device in accordance with said quality measurement information.

35. (New) A method for controlling wireless devices which are communication each other as a direct communication in a wireless network where there is at least one central device for facilitating said direct communication, the method comprising:

receiving a request message from said central device;
measuring a transmission quality of said direct communication that is established
between said wireless devices in response to said request message;
reporting said transmission quality as quality measurement information to said
central device; and
controlling a process of said direct communication based on control data that is
generated by said central device according to said quality measurement information.